



September 4, 2014

Ms. Jana Harvill
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: North Burbank Unit Monitoring Wells
Sampling Reports and Graphs – July, 2014
Osage County, Oklahoma

Dear Jana:

Enclosed for your review is the water sampling results for each of the thirty-eight monitoring wells located in the North Burbank Unit, Osage County, Oklahoma. There have been eight newly drilled monitoring wells, MW-30 thru MW-38, since the last reporting period. Completion reports, well schematics and plats are enclosed for those particular eight along with the baseline results. As you will note, the plats are very informal but will illustrate the location of each well within a section.

Also, at your request, a sample graph has been completed on each monitoring well in the NBU Unit and will be updated during each reporting period. Not only will it eliminate some of the work you do but it will be most beneficial to us in monitoring and properly maintaining the wells. I appreciate your suggestion very much to do them.

Lastly, I am enclosing two generous size maps for you to use when working with Chaparral's monitoring wells. One is a plain map identifying each location of a monitoring well by a + in corners of each quarter sections. As you will note, I've posted pointers on this map to help you easier identify the wells and their locations. The second map is identical except it contains the tract numbers that Chaparral uses to number their injection wells.

I think you will find these maps helpful when reviewing this data. If you need additional information or have any questions, please let me know.

Respectfully,

CHAPARRAL ENERGY, L.L.C.

NANCY HUNZIKER
EOR – Regulatory
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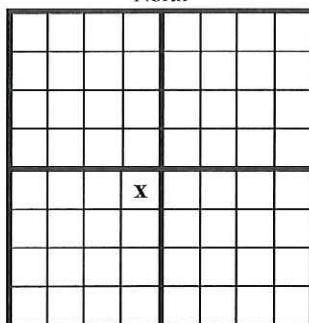


MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, OK 73118
Telephone (405) 530-8800

Legal Location
North

WELL ID NUMBER: 161425



«———— One Mile —————»
Each square is 10-acres

Quarters NE-NE-SW Section 01 Township 27N Range 05E

Latitude 36.8468278 Longitude -96.7173167

Date collected (latitude and longitude), if different from date the well was drilled:
07/09/2014

Method latitude and longitude was collected: GPS - uncorrected data

County Osage

Variance Request No. (if applicable) n/a

WELL OWNER - NAME AND ADDRESS

Well Owner Chaparral Energy, LLC

Phone (405) 478-8770

Address/City/State 701 Cedar Lake Blvd. Oklahoma City OK

Zip 73114

Finding Location Shidler, OK West on Hwy 11, North on Denoya Rd to 60th Rd/Ash St. Site is on the NW side of Denoya Rd and Ash St

Well Name MW 38

Water Rights #:

TYPE OF WORK: Monitoring Well

USE OF WELL: Site Assessment

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 07/09/2014

Number of wells or borings represented by this log 1

* (Borings are within the same 10 acre-tract and with the same general depths and lithologies)

Hole Diameter 7.875 inches to a depth of 260 ft.

CASING INFORMATION *Note: If surface casing is used please indicate that on the appropriate well casing information line.

Surface Pipe Material: Surface Pipe Diameter inches Surface Pipe From ft to ft

1) Well Casing Material PVC Casing Diameter 4 inches Casing From 0 ft to 233 ft

SCREEN OR PERFORATION INFORMATION

Type of Screen: PVC Type of Slots or Openings: Factory Slotted - 10 slot (0.010 inch) From 233 ft to 253 ft.

FILTER PACK INFORMATIONFilter Pack Material: Sand 10-20 (coarse)Filter Pack Interval: From 225 ft to 253**WELL SEAL INFORMATION**Type of Surface Seal Cement GroutSurface Seal Interval: From 0 ft to 2 ftType of Annular Seal Cement GroutAnnular Seal Interval: From 2 ft to 220 ftFilter Pack Seal Material Bentonite Granules/ChipsFilter Pack Seal Interval: From 220 ft to 225 ft**TYPE OF COMPLETION:** Above Ground**HYDROLOGIC INFORMATION**Depth to water at time of drilling ftEstimated yield of well gpmFirst water zone ft**LITHOLOGY DESCRIPTION**

MATERIAL	ENCOUNTERED		SATURATED
	FROM (ft.)	TO (ft.)	
Brown Clay w/Shale	0	150	N
Limestone & Shale	150	190	N
Shale & Limestone	190	225	N
Limestone & Sand	225	250	N
Shale	250	260	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTIONHas this well been disinfected after completion of work? NoAre there any potential sources of pollution or wastewater lagoons within 300 ft. of the well? n/aDistance of Well is n/a from possible source. Type of possible source: n/a**PLUGGING INFORMATION**Date Well or Boring Was Plugged n/aTotal Depth of well being plugged ft.Was the well contaminated or was it plugged as though it was contaminated? n/aIf the well or boring was plugged as if it was contaminated, was the casing removed or perforated? n/aWas the grout tremied? n/aBackfilled with n/aBackfilled from ft. to ft.Grouted with n/aGrouted from ft. to ft.Grouted with CementGrouted from ft. to ft.Firm Name ASSOCIATED ENVIRONMENTAL INDUSTRIES D/PC No. DPC-0269
CORP.Operator Name BILLY GRAHAMOP No. OP-0957Date 08/05/2014

Comments: Bore hole was plugged with 3/8 inch Bentonite Chips from 253 ft. to 260 ft.

Chaparral Energy
Monitor Well Construction Diagram

OWRB WELL ID NUMBER 161425

Well # MW 38

Legal Description

Quarters NE-NE-SW

Section 01 Township 27N Range 05E1

WELL COVER / CASING PROTECTOR

8 5/8" steel casing

FROM +3' TO 2'

ground level

WELL CASING 4" sch 40 PVC

FROM +2' TO 233'

SCREEN 4" sch 40 PVC Factory Slotted - .020 inch

FROM 233' TO 253'

Bottom Cap 4" sch 40 PVC bottom cap

FROM 253' TO 253.5'

TOTAL DEPTH OF WELLBORE 260'

7 7/8" Borehole

SURFACE SEAL & PAD Concrete

FROM +3' TO 2'

ANNULAR SEAL Neat Cement

FROM 2' TO 220'

FILTER PACK SEAL Bentonite Chips

FROM 220' TO 225'

FILTER PACK 10-20 Silca Sand

FROM 225' TO 253'

Backfill Bentonite Chips FROM 253' TO 260'

Associated Environmental Industries, Corp

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Associated Environmental Industries Corp.
P.O. Box 5300
Norman OK, 73070

Project: Webb City, OK
Project Number: No Project
Project Manager: Mr. Robert Keyes

Reported:
07/31/14 16:11

MW38

E4G0438-38 (Aqueous) - Sampled: 07/24/14 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
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Environmental Testing, Inc.

Conventional Chemistry Parameters by Standard Methods

Total Alkalinity	228	20.0	mgCaCO ₃ /L	1	ECG0522	ECF	07/30/14 12:10	SM 2320B	
Total Dissolved Solids	658	50.0	mg/L	1	ECG0543	BLG	07/31/14 11:30	SM 2540C	

Anions by EPA Method 300.0

Chloride	184	16.0	mg/L	100	ECG0506	DMB	07/30/14 06:23	EPA 300.0	
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Environmental Testing, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

Keith Hopcus For Russell Britten, President

SHIDLER AREA Groundwater Sampling

Well ID	MW 38			
	Sample Date	Chloride	TDS	Alkanlinity
Base Line	7/23/2014	184	658	228

